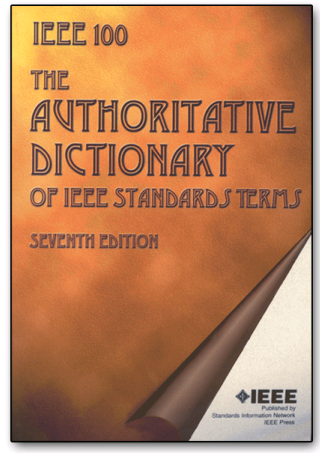
EXHIBIT 9

IEEE 100
The Authoritative Dictionary of IEEE Standards Terms

Seventh Edition



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multi-element conduction interval (thyristor) That part of the conduction interval when ON-state current flows in more than one basic control element simultaneously. (IA/IPC) 428-1981w

multifamily dwelling A building containing three or more dwelling units. (NESC/NEC) [86]

multifiber cable (fiber optics) An optical cable that contains two or more fibers, each of which provides a separate information channel. *See also:* optical cable assembly; fiber bundle. (Std100) 812-1984w

multifiber joint (fiber optics) An optical splice or connector designed to mate two multifiber cables, providing simultaneous optical alignment of all individual waveguides. *Note:* Optical coupling between aligned waveguides may be achieved by various techniques including proximity butting (with or without index matching materials), and the use of lenses. (Std100) 812-1984w

multifield key *See:* concatenated key.

multiframe A cyclic set of consecutive frames in which the relative position of each frame can be identified. (COM/TA) 1007-1991r

multiframe alignment *See:* frame alignment.

multiframe alignment signal *See:* frame alignment signal.

multifrequency test A broad band test motion, simulating a typical seismic motion, that can produce a simultaneous response from all applicable modes of a multidegree-of-freedom system. (SWG/PE) C37.100-1992, C37.81-1989r

multifrequency transmitter A radio transmitter capable of operating on two or more selectable frequencies, one at a time, using present adjustments of a single radio-frequency portion. *See also:* radio transmitter. (AP/BT/ANT) 145-1983s, 182-1961w

multigrounded neutral system (power and distribution transformers) A distribution system of the four-wire type where all transformer neutrals are grounded, and neutral conductors are directly grounded at frequent points along the circuit. (PE/TR) C57.12.80-1978r

multilateration The location of an object by means of two or more range measurements from different reference points. It is a useful technique with radar because of the inherent accuracy of radar range measurement. *Note:* The use of three reference points to obtain target location is known as trilateration. (AES) 686-1997

multilayer Pertaining to a printed circuit board with several layers of printed circuit etched or patterned, one over the other and interconnected by electroplated holes which can also receive component leads. (C) 610.10-1994w

multilayer filter *See:* interference filter.

multilevel address *See:* indirect address.

multilevel network subject A network subject that causes information to flow through a network at two or more security levels without risk of compromise by transmitting sensitivity labels along with the data. *Contrast:* single-level network subject. (C) 610.7-1995

multilevel security (1) (software) A mode of operation permitting data at various security levels to be concurrently stored and processed in a computer system when at least some users have neither the clearance nor the need-to-know for all data contained in the system. *See also:* data; security; computer system. (C/SE) 729-1983s

(2) The capability of simultaneously separating and protecting information of two or more security levels during processing. (C/BA) 896.3-1993w

multilevel storage *See:* virtual storage.

multiline hunt group (MLHG) A group of lines that have a fixed alternate routing should one or more of the lines in the group be busy. (SCC31/AMR) 1390.3-1999, 1390.2-1999, 1390-1995

multilist A technique for organizing records in which records that have equivalent values for a given secondary key form a linked list. *Synonym:* multiple threaded list.

Student	Name	Homeroom	Link
1	MARY	25	4
2	JOE	27	15
3	JOHN	10	6
4	ANNE	25	5
5	SUSAN	25	–
6	KIM	10	21
7	BOB	26	16
•	•	•	•

multilist

(C) 610.5-1990w

multimedia A form of hypermedia consisting of a combination of two or more forms of the following: text, audio, graphics, animation, and full-motion video. (C) 610.10-1994w

multimode distortion (fiber optics) In an optical waveguide, that distortion resulting from differential mode delay. *Note:* The term "multimode dispersion" is often used as a synonym; such usage, however, is erroneous since the mechanism is not dispersive in nature. *Synonyms:* mode distortion; intermodal distortion. *See also:* distortion. (Std100) 812-1984w

multimode fiber (interferometric fiber optic gyro) An optical fiber waveguide that will allow more than one bound mode to propagate. (AES/GYAC) 528-1994

multimode group delay *See:* differential mode delay.

multimode laser (fiber optics) A laser that produces emission in two or more transverse or longitudinal modes. *See also:* mode; laser. (Std100) 812-1984w

multi-mode optical fiber An optical fiber that has a relatively large core in which the light bounces off the walls of the core. This results in multiple signal paths through the fiber which limits the maximum signaling rate more and more as the fiber length increases. *See also:* single-mode optical fiber. (C) 610.7-1995

multimode optical waveguide (fiber optics) An optical waveguide that will allow more than one bound mode to propagate. *Note:* May be either a graded index or step index waveguide. *See also:* mode; bound mode; single mode optical waveguide; power-law index profile; multimode distortion; mode volume; step index optical waveguide; normalized frequency. (Std100) 812-1984w

multimode SAW oscillator A surface acoustic wave oscillator in which more than one frequency satisfies the oscillation conditions. (UFFC) 1037-1992w

multimode waveguide A waveguide used to propagate power in more than one mode at a frequency of interest. (MTT) 146-1980w

multinomial A linear sum of terms involving powers of more than one variable.

$$\sum_{i_1=0}^{N_1}\sum_{i_2=0}^{N_2}\cdots\sum_{i_m=0}^{N_m} A(i_1, i_2, \ldots i_m)X_1^{i_2}X_2^{i_2}\ldots X_m^{i_m}$$

(IM/ST) 1451.2-1997

multioffice exchange (telephone switching systems) A telecommunications exchange served by more than one local central office. (COM) 312-1977w

multiorder lag (automatic control) In a linear system or element, lag of energy storage in two or more separate elements of the system. *Note:* It is evidenced by a differential equation of order higher than one, or by more than one time-constant. It may sometimes be approximated by a delay followed by a first-order or second-order lag. *See also:* lag. (PE/EDPG) [3]

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multiaddress calling A service feature that permits a user to designate more than one addressee for the same data. Functionally, multiaddress calling may be performed sequentially or simultaneously. See also *broadcast.*

multibus Intel's central path (channel) for transmitting electrical signals and data; it was developed for use in 8- and 16-bit computer systems.

multibyte character In encoding, a character represented by two or more bytes. These characters arise in languages whose alphabet contains more than 256 characters, as is the case with Chinese and Japanese.

multicarrier modulation (MCM) A method of transmitting data by dividing the data into several bit streams, each of which is used to modulate a separate carrier. *MCM* is a form of frequency division multiplexing (FDM).

multicast A message sent from one source to a subset of all possible destination hosts that could receive the message. The subset is called a *multicast group,* and hosts that desire to participate must subscribe.

Multicasting is applicable to a number of applications, such as teleconferencing and the Internet Talk Radio. Protocols that support multicast include Apple Computer's Simple Multicast Routing Protocol (SMRP), and *IP multicast.* See also *IP multicast.*

multicast address A routing address that is used to address simultaneously all computers in a specified group and usually identifies a group of computers that share a common protocol, as opposed to a group of computers that share a common network. In the Internet protocol, it is called a *class d address.*

Multicast Backbone (MBONE) One implementation of *real-time* video and audio services for the Internet.

The basic premise of data delivery on the Internet is to make it error free, even at the expense of delay. Both audio and video, on the other hand, can tolerate errors but cannot tolerate delay. Therefore, new protocols had to be developed, the *multicast protocol* being one of them. To support the *multicast protocol* with its time-sensitive transmission requirements, a new backbone is required. This alternative backbone consists of computers equipped with special hardware interfaces, new software, and high-speed transmission facilities. Even with all of this equipment in place, the message throughput is not capable of full-motion multimedia transmission. Full motion requires approximately 30 picture frames per second, and the *multicast backbone* can support only about one-tenth of that. Even that data rate is useful for audiovisual teleconferencing and collaborative worksheets (a kind of electronic chalkboard in which all participants can view and change the contents).

multicast bit A bit in the Ethernet addressing structure used to indicate a broadcast message, i.e., a message to be sent to all stations.

multicast group The list of IP addresses to which multicast messages are sent. See also *IP multicast.*

multicast message A message that is intended for a set of stations on a network.

Multicast Open Shortest Path First (MOSPF) See *IP multicast.*

multidrop line A transmission configuration wherein a single transmission line is shared by several end stations.

For example, an Ethernet bus topology provides a *multidrop* connection, as does a telephone party line. Also called a *multi-drop line* or *multipoint line.*

multifiber cable A fiber optic cable having two or more separate fibers, each of which is capable of serving as an independent optical transmission channel.

multihomed host A host that is connected to more than one network.

Each network may operate with a different protocol. The host will have an IP address on each network, and that address may be different. The host may or may not allow transmissions to cross from one network onto another (as a bridge).

multilayer filter See *interference filter.*

multileaving The transmission of a variable number of data streams between user devices and a computer, usually via BiSync facilities and using BiSync protocols.

multilevel code A code where a single signal variable may take on more than two values. Examples include:

- *DPSK,* which has four possible phase angles, 0°, 90°, 180°, and 270°, per transmitted symbol.
- *AMI,* which has three possible voltage levels per transmitted symbol (+V, 0, and −V). Both +V and −V are usually encoded as logical one.
- *2B1Q,* which has four voltage levels, representing the combined value of two bits, in each symbol transmitted.

See also *waveform codes.*

multilevel phase shift key (MPSK) See *MPSK.*

multilink point-to-point protocol (MPPP) A standard communications protocol used to bond separate ISDN data-carrying B-channels together to transfer data effectively through a larger "pipe." At the basic rate, it allows both B-channels to be used for either voice or data transmissions and supports dynamic bandwidth allocation. That is, one of the two channels can be reallocated automatically for an incoming phone call. Upon call completion, the channel can be reconnected to continue data transfer over *MPPP.*

multimedia (1) A generic description of the generation, presentation, or simultaneous transfer of information in more than one way. Media types include text, graphic (drawings), still images (photographs), motion video, and sound. Multimedia therefore involves two or more simultaneous media types to communicate information. Note that multimedia presentations tend to consume huge amounts of resources, computer processing capability, disk memory, and transmission bandwidth. See also *MPC.* **(2)** In local area networks (LAN) applications, the use of mixed types of transmission media such as coax, UTP, and fiber optics.

Multimedia and Hypermedia information coding Expert Group (MHEG) An ISO standard encoding for multimedia and hypermedia information. It is designed to simplify the use and interchange of information such as with games, electronic publishing, and medical applications.

multimedia mail An e-mail system in which users are allowed to include graphics, sounds, and video in addition to text. Also called *MIME* (Multipurpose Internet Mail Extension).

multimode distortion In multimode optical fibers, the gradual spreading of an optical pulse with increasing distance, i.e., the rounding of the digital light pulse as it traverses the fiber. Two methods can be used to explain the effect:

- In wave optics, the signal is spread in time because the propagation velocity of the optical signal is not the same for all modes.

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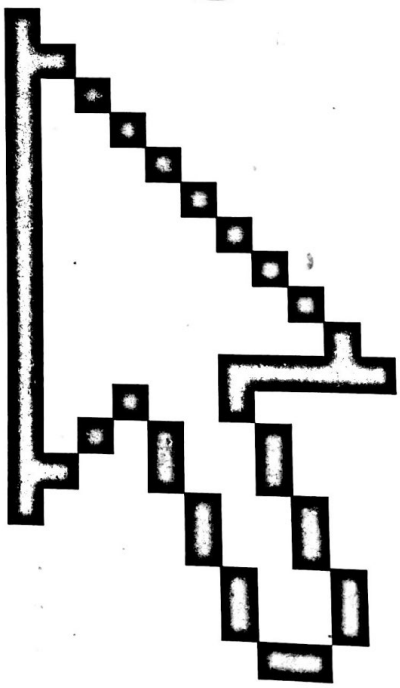

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(capable of extremely fast data transmission), Multibus also allows multiple bus masters. *See also* bus.

multicast address dynamic client allocation protocol *n.* An extension to the DHCP protocol standard used to support dynamic assignment and configuration of IP multicast addresses on TCP/IP-based networks. *Acronym:* MADCAP.

multicast backbone *n. See* MBONE.

multicasting *n.* The process of sending a message simultaneously to more than one destination on a network. *Compare* anycasting.

multichannel multipoint distribution service *n. See* MMDS.

Multi-Color Graphics Array *n. See* MCGA.

multi-element *adj.* Consisting of multiple data elements that all have the same format for storing the same kind of information. The data elements may be simple variables, as in an array of integer variables, or they may be more complicated data structures, as in an array of employee records each of which contains fields for an employee's name, Social Security number, pay rate, and so on.

multifile sorting *n.* The process of sorting a body of data that resides in more than one file.

MultiFinder *n.* A version of the Macintosh Finder that provides support for multitasking. The primary use of MultiFinder is to allow multiple applications to be simultaneously resident in memory. A single mouse click switches between applications, and information from one application can be copied to another. If the active application allows true multitasking, background tasks can be processed. *See also* Finder.

multifunction board *n.* A computer add-in board that provides more than one function. Multifunction boards for personal computers frequently offer additional memory, serial/parallel ports, and a clock/calendar.

multifunction peripheral *n.* A multipurpose device that combines printing with faxing, scanning (color or black and white), and copying (color or black and white) in a single unit. Multifunction peripherals are especially popular with the SOHO (small office, home office) market, where cost-effectiveness and space limitations can be significant considerations. *Acronym:* MFP. *Also called:* multifunction printer.

multifunction printer *n. See* multifunction peripheral.

multihoming *n.* **1.** In Mac OS X, an automatic network selection feature that allows one computer to maintain multiple network addresses. Multihoming may be used with a computer that is used from multiple locations, such as home and office, or to create special connection settings, such as separate systems for communication inside and outside of an intranet. **2.** The use of multiple addresses and/or multiple interfaces for a single node. A multihomed host has either multiple network interfaces connected to two or more networks, or a single network interface that has been assigned multiple IP addresses. Multihoming can be used to provide redundancy to achieve quality of service.

multilayer *adj.* **1.** In board design, of or pertaining to a printed circuit board consisting of two or more layers of board material. Each separate layer has its own metallic tracings to provide electrical connections between various electronic components and to provide connections to the other layers. The layers are laminated together to produce a single circuit board to which the components, such as integrated circuits, resistors, and capacitors, are attached. Multilayer design allows many more discrete paths between components than single-layer boards do. **2.** In computer-aided design (CAD), of or pertaining to drawings, such as electronic circuits, that are built up using multiple layers, each with a different level of detail or a different object, so that distinct parts of the drawing can easily be manipulated, overlaid, or peeled off.

multilayer switch *n.* A network switch that uses information from more than one ISO/OSI layer (Layer 2, Layer 3, Layer 4, and/or Layer 7) to forward traffic. *See also* ISO/OSI reference model, switch (definition 4).

Multilink Point-to-Point Protocol *n.* An Internet protocol that allows computers to establish multiple physical links to combine their bandwidths. This technology creates a virtual link with more capacity than a single physical link. *Acronym:* MPPP. *See also* PPP.

multimedia *n.* The combination of sound, graphics, animation, and video. In the world of computers, multimedia is a subset of hypermedia, which combines the aforementioned elements with hypertext. *See also* hypermedia, hypertext.

Multimedia Extensions *n. See* MMX.

Multimedia PC *n.* Software and hardware standards set forth by the Multimedia PC Marketing Council, which

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Ninth Edition

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multicasting

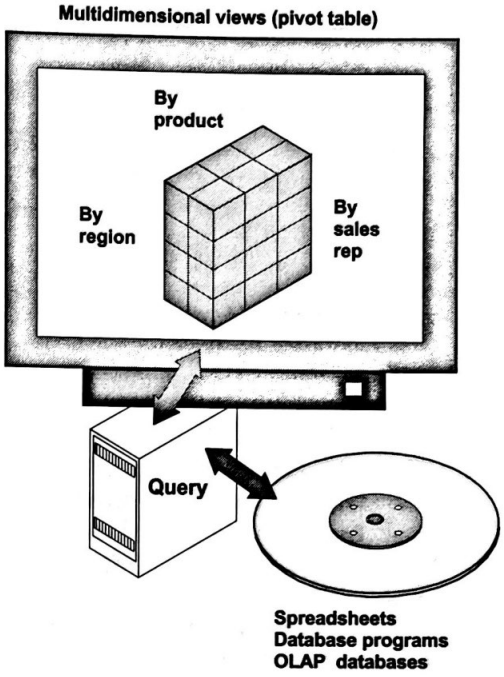
The ability to transmit a message to multiple recipients at the same time. Multicasting is used in teleconferencing as well as by communications protocols that need to broadcast a request to all nodes on the network.

multichip module

See *MCM*.

multidimensional views

Looking at data in several dimensions; for example, sales by region, sales by sales rep, sales by product category, sales by month, etc. See *OLAP*.



multidrop line

See *multipoint line*.

multifrequency monitor

A monitor that adjusts to all frequencies within a range (multiscan) or to a set of specific frequencies, such as VGA and Super VGA.

multilaunch

To open the same application based in a server simultaneously from two or more clients.

multilayer switch

See *layer 3 switch*.

multiline

A cable, channel or bus that contains two or more transmission paths (wires or optical fibers).

multimedia

Disseminating information in more than one form. Includes the use of text, audio, graphics, animated graphics and full-motion video. See *MPC*.

Multimedia Extensions

Windows routines that support audio recording and playback, animation playback, joysticks, MIDI, the MCI interface for CD-ROM, videodiscs, videotapes, etc., and the RIFF file format. See *MPC*.

multimedia upgrade kit

The hardware and software necessary to turn a standard PC into a multimedia PC, which includes the CD-ROM drive, sound card and speakers.

multimode fiber

An optical fiber with a core diameter of from 50 to 100 microns. It is the most commonly used optical fiber. Light can enter the core at different angles, making it easier to connect the light source. However, light rays bounce around within the core causing some distortion and providing less bandwidth than single-mode fiber. Contrast with *single-mode fiber*.

Multiple Master

A font technology from Adobe that allows a typeface to be generated in different styles, from condensed to expanded and from light to heavy.

multiplexing

Transmitting multiple signals over a single communications line or computer channel. The two common multiplexing techniques are FDM, which separates signals by modulating the data onto different carrier frequencies, and TDM, which separates signals by interleaving bits one after the other. See *inverse multiplexing*.